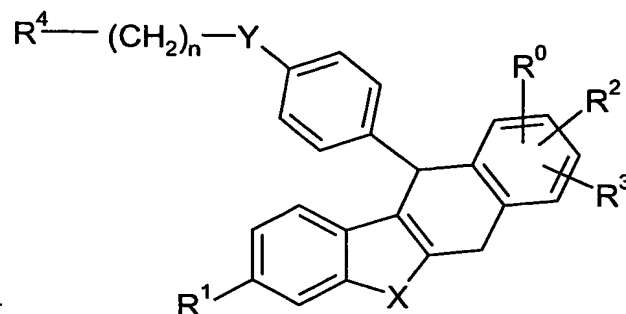


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## I CLAIM:

1. A compound of the formula



(I)

wherein

R<sup>1</sup> is -H, -OH, -O(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCOC<sub>6</sub>H<sub>5</sub>, -OCO(C<sub>1</sub>-C<sub>6</sub> alkyl), or -OSO<sub>2</sub>(C<sub>2</sub>-C<sub>6</sub> alkyl);

10 R<sup>0</sup>, R<sup>2</sup> and R<sup>3</sup> are each independently -H, -OH, -O(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCOC<sub>6</sub>H<sub>5</sub>, -OCO(C<sub>1</sub>-C<sub>6</sub> alkyl), -OSO<sub>2</sub>(C<sub>2</sub>-C<sub>6</sub> alkyl) or halo;

R<sup>4</sup> is 1-piperidinyl, 1-pyrrolidinyl, methyl-1-pyrrolidinyl, dimethyl-1-pyrrolidinyl, 4-morpholino, dimethylamino, diethylamino, diisopropylamino, or 1-hexamethyleneimino;

15 n is 2 or 3;

X is -S- or -HC=CH-; and

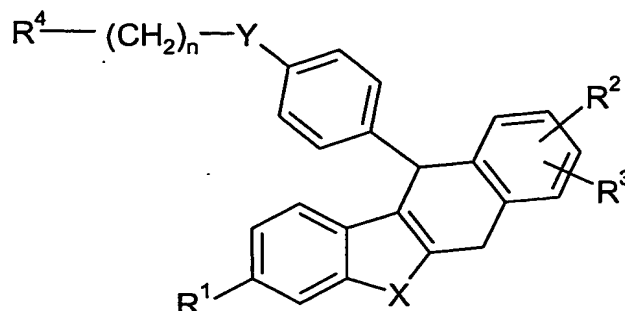
Y is -O-, -S-, -NH-, -NMe-, or -CH<sub>2</sub>-;

or a pharmaceutically acceptable salt thereof.

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2. A compound of Claim 1 of the formula



wherein

- 5         $R^1$  is -H, -OH, -O(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCOC<sub>6</sub>H<sub>5</sub>, -OCO(C<sub>1</sub>-C<sub>6</sub> alkyl), or -OSO<sub>2</sub>(C<sub>2</sub>-C<sub>6</sub> alkyl);
- $R^2$  and  $R^3$  are each independently -H, -OH, -O(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCOC<sub>6</sub>H<sub>5</sub>, -OCO(C<sub>1</sub>-C<sub>6</sub> alkyl), -OSO<sub>2</sub>(C<sub>2</sub>-C<sub>6</sub> alkyl) or halo;
- $R^4$  is 1-piperidinyl, 1-pyrrolidinyl, methyl-1-pyrrolidinyl, dimethyl-1-pyrrolidinyl, 4-morpholino, dimethylamino, diethylamino, diisopropylamino, or 1-hexamethyleneimino;
- 10         $n$  is 2 or 3;
- $X$  is -S- or -HC=CH-; and
- $Y$  is -O-, -S-, -NH-, -NMe-, or -CH<sub>2</sub>-;
- 15        or a pharmaceutically acceptable salt thereof.
3. A compound according to Claims 1 or 2 wherein  $Y$  is -O-.
4. A compound according to any of Claims 1 to 3 wherein  $n$  is 2.
- 20        5. A compound according to any of Claims 1 to 4 wherein  $R^1$  is -OH or -OCH<sub>3</sub>.
6. A compound according to any of Claims 1 to 5 wherein  $R^1$  is -OH.
- 25        7. A compound according to any of Claims 1 to 6 wherein  $R^4$  is 1-piperidinyl or 1-pyrrolidinyl.

8. A compound according to any of Claims 1 to 7 wherein  $R^4$  is 1-piperidinyl.
9. A compound according to any of Claims 1 to 8 wherein two of  $R^0$ ,  $R^2$  and  
5  $R^3$  are -H.
10. A compound according to any of Claims 1 to 8 wherein two of  $R^0$ ,  $R^2$  and  
 $R^3$  are -H and the other is -OH.
- 10 11. A compound according to any of Claims 1 to 9 wherein  $R^0$ ,  $R^2$  and  $R^3$  are  
all -H.
12. A compound according to any of Claims 1 to 11 wherein X is -S-.
- 15 13. A compound according to any of Claims 1 to 12 wherein X is -HC=CH-.
14. A compound according to Claim 1 wherein said compound is selected  
from the group consisting of:
- 11-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-6,11-dihydro-benzo[b]naphtho[2,3-  
20 d]thiophen-3-ol;
- 11-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-6,11-dihydro-benzo[b]naphtho[2,3-  
d]thiophene-3,8-diol;
- 11-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-6,11-dihydro-benzo[b]naphtho[2,3-  
d]thiophene-3,10-diol;
- 25 11-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-6,11-dihydro-benzo[b]naphtho[2,3-  
d]thiophene-3,9-diol;
- 10-Fluoro-12-[4-(2-piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-  
benzo[a]anthracen-3-ol;
- 12-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-benzo[a]anthracene-3,10-  
30 diol;
- 12-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-benzo[a]anthracene-3,9-  
diol;

12-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-benzo[a]anthracene-3,11-diol;

12-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-benzo[a]anthracene-3,8-diol;

5 or a pharmaceutically acceptable salt thereof.

15. A compound according to Claim 1 wherein said compound is 12-[4-(2-Piperidin-1-yl-ethoxy)-phenyl]-7,12-dihydro-benzo[a]anthracene-3,9-diol or a pharmaceutically acceptable salt thereof.

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16. A pharmaceutical composition comprising a compound according to any of Claims 1 to 15 or a pharmaceutically acceptable salt thereof, and optionally an effective amount of estrogen and progestin, in combination with a pharmaceutically acceptable salt, diluent, or excipient.

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17. A method for inhibiting a disease associated with estrogen deprivation comprising administering to a patient in need thereof a therapeutically effective amount of a compound according to any one of Claims 1 through 15.

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18. A method according to Claim 17 wherein said patient is a human.

19. A method according to Claim 18 wherein said patient is a postmenopausal female.

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20. A method according to any of Claims 17 to 19 wherein said disease is bone loss.

21. A method according to any of Claims 17 through 19 wherein said disease is cardiovascular disease.

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22. A method for inhibiting a disease associated with an aberrant physiological response to endogenous estrogen comprising administering to a patient in need thereof a

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therapeutically effective amount of a compound according to any one of Claims 1 through 15.

23. A method according to Claim 22 wherein said patient is a human.

24. A method according to Claim 23 wherein said patient is a postmenopausal female.

25. A method according to any of Claims 22 through 24 wherein the disease associated with an aberrant physiological response to endogenous estrogen is estrogen dependent cancer.

26. A method according to Claim 25 wherein said cancer is breast cancer.

27. A method according to any of Claims 22 through 24 wherein the disease associated with an aberrant physiological response to endogenous estrogen is endometriosis.

28. A method according to any of Claims 22 through 24 wherein the disease associated with an aberrant physiological response to endogenous estrogen is uterine fibrosis.

29. The use of a compound according to any of Claims 1 to 15 for the manufacture of a medicament.

30. The use of a compound according to any of Claims 1 to 15 for the manufacture of a medicament for inhibiting a disease associated with estrogen deprivation.

31. The use according to Claim 30 wherein said disease is bone loss.

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32. The use according to Claim 30 wherein said disease is cardiovascular disease.

33. The use of a compound according to any of Claims 1 to 15 for the manufacture of a medicament for inhibiting a disease associated with an aberrant  
5 physiological response to endogenous estrogen.

34. The use according to Claim 33 wherein said disease is estrogen dependent cancer.

10 35. The use according to Claim 34 wherein said cancer is breast cancer.

36. The use according to Claim 33 wherein the disease associated with an aberrant physiological response to endogenous estrogen is endometriosis.

15 37. The use according to Claim 33 wherein the disease associated with aberrant physiological response to endogenous estrogen is uterine fibrosis.

38. A pharmaceutical composition for inhibiting a disease associated with deprivation containing as an active ingredient a compound according to Claims 1 to 15.

20 39. A pharmaceutical composition for inhibiting a disease associated with an aberrant physiological response to endogenous estrogen containing as an active ingredient a compound according to any of Claims 1 to 15.

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